

ENGINEERING CHANGE NOTICE

DART AEROSPACE LTD

Date: 07.06.26	Job No.: 00075	ADR Yes/No: Y	ADR Date: 07.06.26	ECN #: 987
Product No.: D412-630-033/-034		Created By: <i>JP</i>	Approved By: <i>JP</i>	
Product Name: HELI-ACCESS-STEPS, FOLDING		Checked By: <i>PH</i>	General Manager Approval:	

Distribution	Reqd	Resp	Received	Distribution	Reqd	Resp	Received
Production Manager	Y	LL	<i>11/07/07</i>	Customer Technical Support	Y	DS	<i>07/07/07</i>
Production Engineering Coord	Y	JLM/EC	<i>JP</i>	Marketing	Y	SW	<i>07/07/07</i>
Director Quality Assurance	Y	DT	<i>JP</i>				
Customer Order Processing	Y	BG	<i>Bugle</i>				

Reason for Change:

Update D412-630-033/-034 dwgs as manufactured during initial shipment of CHG 002 steps.

Documents Affected:

Release
 - D3560 Rev. C
 - D3562 Rev. C
 - D3592 Rev. B
 Supersede
 - D3560 Rev. B
 - D3562 Rev. *B*
 - D3592 Rev. A

#	Engineering Actions	Reqd	Resp	Notes	Complete
1	Required Documents/Drawings Under Review	Y	CP		<i>07.06.26</i>
2	Update Blue/Pink/DSI Folder and Electronic Files	N			
3	Update D-Part/M-Drawing/DSI/DEO Master Binders	Y	KJ		<i>07.07.10</i>
4	Update Grey Project Binder	Y	CP		<i>07.07.10</i>
5	Move Electronic Files	Y	KJ		<i>07.07.10</i>
6	Update Master Document List (MDL) <i>Rev. F</i>	Y	CP		<i>07.07.10</i>
7	Update Document Record (DR) <i>Rev. O</i>	Y	CP		<i>07.07.10</i>
8	Create/Update Change Record Form	N			
9	Create/Update PPP's	N			
10	Update Controlled PDF Files	Y	KJ		<i>07.07.10</i>
11	Notify TC/FAA of Change	N			
12	Update QSI 021 and/or STC Approval List	N			
13	Update Product Development Summary	Y	CP		<i>07.07.23</i>
14	Update Accpac Database	N			
15	Update Access (ARC) Database	N			
16	Update/Verify ARC	N			
17	Update Paperwork Kits in Production	N			
18	Update Qpulse/Laminated Dwgs	N			
19	Update Product Compatability Matrix	N			
20	Create Eurocopter Form (FEE)	N			
21					

#	Production Actions	Reqd	Resp	Notes	Complete
22	Create/Update Coss IPP/BOM	Y	JLM/EC		<i>07/10/07</i>
23	Update FAI Sheets	Y	JLM/EC		<i>07/10/07</i>
24	Create/Update CNC Programs	Y	JLM/EC		<i>07/10/07</i>
25	Create/Update Tooling	Y	JLM/EC	Verify that all necessary tooling has been created	<i>07/10/07</i>
26	Red Tag Stock (Specify)	N			
27	Rework/Scrap Current Production and/or Stock	N			
28	Update Paperwork Kits in Stock	N			
29	Create/Update MPP	N			
30					

#	Quality Assurance Actions	Reqd	Resp	Notes	Complete
31	Notify Previous Customers	N			
32	Notify Eurocopter France	N			
33					

Description / Action:

- D3560-041/-042/-043/-044 Arm Weldment, no longer powder coated
 - D3592-1 Plate, remove qty(2) holes
 - D3562-041/-042 Step Assembly, now magnabonded, qty(4) less rivets, now powdercoated after magnabond, add qty(2) D2808 spacers after powder coat
 - D412-630-033/-034 still at CHG 002.

AMENDMENT DESIGN REVIEW (ADR)Part/Installation No.: D412-630 Rev: _____ Design Review No.: _____ Date: 07.06.26Project Number: 00075 Project Description/Title: Heli-Access-StepsEng. Project Manager: Chris Provencal

Persons Present	Title	Initial
Mike Petcher	Design Manager	<i>MP</i>
Chris Provencal	Engineering Project Manager	<i>CP</i>
David Shepherd	Chief Engineer (DE #02)	<i>DS</i>
	Manufacturing Manager	
	Quality Manager	

Comments

- During initial production of the D412-630-033/-034 steps, a number of issues/improvements were discovered with the design
- The rivet tool did not allow for installation of some of the rivets on the D3560 arms. These rivets were removed from the design
- Tooling holes were added to the D3692-1 Plates for use in the bending tool
- The Sikaflex between the D3560 arms and the step extrusion was changed to Magnobond. This allows the arms to be riveted before powder coat. The Magnobonded step can be riveted, pre-baked, end-caps welded onto step, then powder coated. With Sikaflex (which would be installed after powder coated), the endcaps would be installed during riveting, which doesn't allow removal of swarf or the drilling-out incorrectly installed rivets.
- These problems were not caught during the initial prototype because (a) the step wasn't powder coated to speed up production of the prototype and (b) proper jigs weren't created for the prototype (done by hand, again to speed up production) and the exact order wasn't followed (eg. the D3592-1 plates were riveted to the step prior to welding of the D3560 arms). In future, we will need to ensure all prototypes are complete, assembled in the proper steps, and using jigs that will be used for production.
- Dwgs D3560 Rev.C, D3562 Rev.C, and D3592 Rev. B created to incorporate these changes.

Key Tasks (Check or N/A)	Check	Responsible	Completion Date
Review Outstanding TSR/NCR/CAR/PAR	N/A		
Fill out Criteria/Constraints Form – Inputs	N/A		
Fill out Project Evaluation Form	N/A		
D-Part creation/revision	Y	CP	
Get Manufacturing Input	Y	CP	07.06.26 <i>CP</i>
First Article Inspection	Y	CP	07.06.26 <i>CP</i>
Fit and Function Test	Y	CP	07.06.26 <i>CP</i>
Structural Test	N/A		
Reports (Compliance, Loads, Stress, Conformity, DSI)	N/A		
Check Drawings against all QSIs	Y	CP	07.06.26 <i>CP</i>
Review Criteria/Constraints Form	N/A		
Revision to existing approval	N/A		
Close Amendment Project	N/A		

Conclusion:

Revise dwgs, release per ECN 987